REMARKS

This application has been carefully reviewed in light of the Office Action dated July 26, 2005. Claims 1 to 17 and 19 to 26 are pending in the application, with Claims 18 having been cancelled and Claim 26 having been newly-added. Claims 1 to 3, 5, 6, 9, 11, 16, 19, 20, and 23 to 25 have been amended. Claims 1, 5, 16, 20 and 23 to 26 are in independent form. Reconsideration and further examination are respectfully requested.

Claims 1 to 21 were provisionally rejected under 35 U.S.C. § 101 for same invention double patenting over Claims 1 to 21 of U.S. Patent Application No. 10/488,974 (hereinafter the '974 application); and Claim 25 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1 and 2 of the '974 application.

The '974 application has been expressly abandoned. Accordingly, these rejections are seen to be moot. Reconsideration and withdrawal are respectfully requested.

Claims 1 to 21 and 25 are therefore seen to be in condition for allowance, and the amendments to some of these claims are not seen to affect their allowability.

Claims 22 to 24 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,877,497 (Binnig) in view of U.S. Patent No. 6,300,630 (Veneklasen). Reconsideration and withdrawal are respectfully requested.

Claims 23 and 24

Referring specifically to the claims, independent Claim 23 as amended is directed to a cross section working apparatus for working a cross section of a specimen. The apparatus includes a stage for placing the specimen, and a cooling means for cooling

the specimen. The apparatus also includes a beam generation means for irradiating the specimen with a beam to execute a working of the specimen, and a sealing means for sealingly accommodating the specimen and the stage before conveying the stage and the specimen prior to working. In addition, the cooling is carried out at the time of the executing of the working of the specimen.

Independent Claim 24 as amended is directed to a cross section evaluating method. The method includes a first step of cooling a specimen, and a second step of irradiating a beam onto the specimen and cutting out a cross section. The method also includes a third step of sealing the specimen which is temperature-regulated, and a fourth step of conveying the sealed specimen to another apparatus. In addition, the method includes a fifth step of evaluating the conveyed specimen by using another apparatus.

Thus, among its many features, the invention of Claims 23 and 24 provides for (i) cooling a specimen, (ii) irradiating the specimen to execute a working of the specimen (or to cut out a cross section), and (iii) sealing the specimen before the specimen is conveyed.

By virtue of the feature of cooling the specimen, the temperature of the specimen can be controlled within a suitable range, thereby reducing changes in specimen quality which are typically associated with temperature change (e.g., changes from an ion beam). By virtue of irradiating and sealing the specimen before the specimen is conveyed, the atmosphere associated with the specimen can be more easily controlled, thereby reducing changes in specimen quality which are typically associated with the atmosphere (e.g., changes from vapor in the air). As such, more accurate information from the specimen can be obtained.

For example, according to one representative embodiment of the invention of Claims 23 and 24, more accurate information of a specimen can be obtained using FIB-SEM (Focused Ion Beam - Scanning Electron Microscope), since the state and shape of the specimen can be more substantially maintained when working the specimen (or cutting out a cross section thereof).

The applied art is not seen to disclose or to suggest the features of the invention of the subject application. In particular, Binnig and Veneklasen are not seen to disclose or suggest at least the features of (i) cooling a specimen, (ii) irradiating the specimen to execute a working of the specimen (or to cut out a cross section), and (iii) sealing the specimen before the specimen is conveyed.

As understood by Applicants, Binnig discloses an apparatus for data acquisition and control to be used in connection with a scanning probe system. See Binning, Abstract. However, Binning is not seen to disclose or suggest that a specimen is cooled, and that the specimen is irradiated to execute a working of the specimen (or to cut out a cross section). Furthermore, the Office Action acknowledged that Binning does not disclose sealing and conveying of the specimen.

Veneklasen was cited for its alleged disclosure of sealing and conveying. In particular, the Office Action cited to column 1, lines 45 to 47, column 2, lines 10, 11 and 41 to 46, and Claim 9 of Veneklasen, which describe a vacuum seal for a region of a workpiece.

Although Veneklasen may be seen to disclose vacuum sealing, Veneklasen is not seen to disclose or suggest irradiating the specimen to execute a working of the specimen (or to cut out a cross section), muchless that such a specimen is sealed before

being conveyed. Rather, Veneklasen is merely seen to disclose that a region of a workpiece is vacuum sealed. In addition, Veneklasen is not seen to disclose or suggest the attendant benefits provided by sealing the specimen before the specimen is conveyed, such as reducing changes in specimen quality which are typically associated with the atmosphere. Moreover, Veneklasen is not seen to disclose or suggest that the specimen is cooled, nor is Veneklasen seen to suggest the attendant benefits provided by such cooling.

As such, even if Binnig and Veneklasen are combined in the manner proposed in the Office Action (assuming for argument's sake that such combination would be permissible), the result would not teach at least the features of (i) cooling a specimen, (ii) irradiating the specimen to execute a working of the specimen (or to cut out a cross section), and (iii) sealing the specimen before the specimen is conveyed.

Claim 22

Claim 22, which depends on independent Claim 1, is directed to an information acquisition apparatus including a stage for placing a specimen, a cooling means for cooling the specimen, an exposure means for exposing a surface of the specimen of which surface information is desired, and an information acquisition means for acquiring the information relating to the surface exposed by the exposure means. The cooling is carried out at the time of the exposing of the surface. The apparatus also includes a sealing means for sealing the stage to transfer the same in the outside air-tight state.

Thus, among its many features, the invention of Claim 22 provides for (i) cooling a specimen, (ii) exposing a surface of the specimen, and (iii) sealing a stage to

transfer the same in an outside air-tight state. Binnig and Veneklasen are not seen to disclose or suggest at least these features, for reasons similar to those presented above.

Claim 26

Newly-added independent Claim 26 is directed to a working apparatus for working a specimen. The apparatus includes a stage for placing a specimen, a cooling means for cooling the specimen, and a beam generation means for generating a beam with which the specimen is irradiated so as to work the specimen, wherein the cooling means cools the specimen at the time of the working of the specimen.

Thus, among its many features, the invention of Claim 26 provides for (i) cooling a specimen, and (ii) generating a beam with which the specimen is irradiated so as to work the specimen, wherein the specimen is cooled at the time of the working of the specimen. Binnig and Veneklasen are not seen to disclose or suggest at least these features.

Accordingly, based on the foregoing amendments and remarks, Claims 22 to 24 and 26 are believed to be allowable over the applied references.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

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